

II. *Part of a Letter from the Reverend Mr Derham to Dr Sloane, giving an account of his observations of the weather for the Year 99.*

Upminster, Jan. 23. 1700.

S I R,

I Here send you the Tables of my last years observations; together with which I think it convenient to send some few remarks relating thereunto.

I promis'd last year the addition of two Columns to each Months observations, which are here inserted. The one sheweth the *Flying of the Clouds*, concerning which I desire it may be observed, that I have never set down the Point towards which the Clouds flew; but when they varied from the Winds. In all those vacancies therefore in the Column of Clouds, it is to be supposed, that either there were no Clouds at all appeared, or their motion was not discernible, or that they flew in the same track with the Winds.

Concerning the *Thermometer*, it is necessary that I should tell you, that the graduation of it is by Inch-measure, viz. Inches and tenths of Inches. The point of *Freezing* is at about 8'0, or at most 8'2 degrees, and consequently 'tis *Cold* at about 9'0, and *Temperate* at about 10'0 degrees. I need not say, that the Degrees above 100 are *Warm* or *Hot*; and those below 80 are *Harder Frosts*. The Degrees of my Thermometer reach to 24'0, altho I could never make the Spirits descend with Artificial Freezing, much lower than 50, neither when expos'd to the heat of a pretty strong Sun, did they ascend above 225.

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The *Scituation* of my *Thermometer* is against a Northern Wall in the open Air : whereby it is defended against the Heat of the Sun, and so sheweth only the true present Temperature of the Air. 'Tis also guarded against the Beams of the Morning and Evening Sun, when it riseth and setteth on the Northern side of the E. and W. points of the Horizon.

I have thought it unnecessary for the most part, in the Column of *Weather*, to take notice of the Temperature of the Air, whether Hot, Cold, or Moderate, because the Column of the Thermometer sheweth this. Neither also have I said what *Rain* fell, whether much or little, because the Column of Rain sufficiently demonstrateth it. So that it is easy to observe, almost at one view, what Seasons we have had last year, whether Hot, Cold, Temperate, Wet or Dry. I need look no farther back for an instance, than the last Winter-Months, which now, or any time hereafter, we may discover to have been very mild, by the Spirits having been for the most part above 82 Degrees. Yea, many of the days of *November* and *December*, we may find were not much colder than many of the mornings and evenings of the warmer Months. So also for *Wet* and *Dry*, we may find what reason there is for the present great scarcity of Water, which is complained of in many places. For besides what happened in former Months, the two last Months of the Year were much dryer than usual, so that had it not been for the rains of *October*, perhaps a drought had been a General calamity.

I have had frequent confirmations of what I observ'd last year, (*Phil. Transf.* N. 249.) concerning the *Mercury* rising in Foggy weather. The like it doth also in misting weather; as may be seen in divers places of the Table.

I observed last year, that the highest pitch I ever found the Mercury at, was 30.40 inches. But Dec. 22. last, the Weather being misting, and Wind Northerly, it ascended to 30.50 inches, the highest I ever saw it at *Upminster*.

Whether the observations my Register is filled with, will be of any use, to judge of the Fertility or Scarcity, the Healthiness or Diseases, or any other occurrences of the last, or of former or future years, I shall leave to the much better judgments of the learned Members of your Honourable Society, who have been pleased to accept of my past labours of this kind, and by their desires to command my continuance of the same for the future. Whether what I have done may answer your expectations, I am not able to judge. I can only assure you, that it is done with all possible accuracy and fidelity.

I beg pardon for the chasms which you will meet with in some of the months, occasioned by my absence from my observations about necessary affairs. I am

S I R,

Your most Humble Servant,

W. Derham.

lying of the Clouds, Height of the Mercury in the Barometer, and of the
Upminster, in Essex, for the First Six Months of the Year 1699.

March. 6, 12, 9.					April. 6, 12, 9.					May. 6, 12.						
Inds.	Clouds.	Barom.	Ther.	Rain.	Weather.	Winds.	Clouds.	Barom.	Ther.	Rain.	Weather.	Winds.	Clouds.	Barom.	Ther.	R.
by E 2		29.	26	86	Rain and Hail	W by N 1 N 4	N W	29.	37 39 52	93 102 98	Fair	W by S 1 N W 1	N W	29.	84 84	112 113
by W 3			40	82	Same	N N W 3 N 2				92 102	Fair Dry					
Wb. No			64	80		N by E 2	N E			95	Rain	S by W 3		65	113	
1			72	68	Cloudy	N 2	N E by N			88	Cloudy	SW W 2		47	120	
by S 1	N W		77	96		NE by N 3				108		W S W 3		38	133	
by W 2	N N E		78	96	Fairer Day	N by E 3	N E by N			93	Showers	W 3		35	106	
2			82	93		NE 4				90	Fair	SW 1		34	105	
2		30.	91	98		N by E 2				107	Rain					
W o	N		02	90	Frost and Fair	N by E 2				86	Fair	W by S 2		11	99	
by E 1	N by W		11	79	Cloudy	N E 2				82	Thunder Rain	SW 1		17	90	
by W o			15	94						109				31	118	
N W o			19	77		E by N o	N			95	Hoar Fro.	S S W 1		40	98	
1	N by E		11	65	Cloudy	E S E 1	S			92	Fair	SW 3		51	92	
by E o		29.	46	112						95	Showers			58	121	
E 1	S by E		82	82	Cloudy	SE by E 1	SE			85				69	107	
E by S 2	S E		83	107	Cold Fair	E 2				36	Fair	S by W o		79	98	
			88	89						28		S by E 2	S	81	137	
S E o	NE by E		97	82	Cloudy	N 2				17		S 1		87	108	
by N 2		30.	05		Cloudy with some Drops	N by W 1				98	Fair	S 2		90	102	
			11	85						103				93	143	
E o			12	80	Cloudy	S o	N W			97	Fair and Warm	E 1				
NE 2			13	98	Rain	S 1	SW			115				93	115	
			14	87	Fair	S by W o	S W			97	Same	NE 1				
by E o	E		10	85	Cloudy	S 1				93		N by E 1		90	92	
by E 1			11	103						124				88	147	
			08	91						104				92	118	
by No			00	86	Rain	N 1				99						
by W 2	S	29.	97	102		N 3	N N E			101	Same	N by E 3		30.	00	117
			93	92						100		N 2		10	150	
1			84	93						100				21	108	
by W 1			84	106	Cloudy	NE 3				103	Fair	N by W 2		17	105	
			78	97		NE 4				99	and Dry	N 4		14	132	
by W 1			63	93	Cloudy					90				10	108	
by E 1			58	102	Fair	NE				97	Same	N by E 3		10	110	
			69	88	Cloudy					97		N N E 4		08	137	
V o			80	81	Cloudy	NE by E 3				104	Cloudy	N N E 2		05	110	
			84	108	Fair	E N E 3	E			121		N by E 2		5	50	
					Rain					108	Fair	E 1	N N E	01	112	
W by S 2	W by S		87	107	Cloudy	NE by N 1	E			105	Same	E N E 1	N E	29.	99	110
					Rain	SW 1	S W			118						
		30.	02	116	Fairer					101				92	100	
W 1	W S W		04	112	Cloudy	S by W 1				101	Cloudy	NE by E 2	E N E	88	108	
W 2			02	127		S 1				129	Fair	E N E 3		87	131	
		29.	99	110	Fair					103	Cloudy			83	110	
2	S by W		84	108	Rain	W S W 2				103		E N E 3		76	113	
					Fair					99	Cloudy	NE by E 3		72	137	
W o		30.	12	92						21				71	113	
V 2			19	78	Hoar Fro.	S W 1				85	Fair and Hot Day	NE by N 2		69	115	
			22	112	Fair	S 1				100				77	124	
			09	94	Rain					103						
W by S 3		29.	88	98	Fairer	E 2				125	Fair	N 2	N by E	80	113	
W 4			77	115		W by N 1				110		NE by E 3		83	146	
			60	103	Cloudy					89		E by S o		86	115	
Wb. W 3			47	101	Hoar Fro.	W o				115	Same	NE 2		86	110	
V by S 4	W S W		54	118	Fair					110		E by S 2		86	143	
			48	100						87	Cloudy			83	110	
W 3	W by S		38	99	Cloudy	S S W 1	S W			110		N N E 1		80	113	

of the Spirits in the Thermometer, 199.

6, 12, 9.			June				6, 12, 9.		
1.	Ther	Rain	Weather.	Winds.	Clouds.	Barom.	Ther	Rain.	
84	112		Very Dry	SW 2	W by S	30. 08	132		
	138		Hot Day			00	138		
			Fair	SW by S	SW by S	29. 91	132		
65	113		Rain			85	134	0. CI	
47	120	0. 34		W 2		90	123		
38	133								
35	106	0. 19							
34	105								
11	99	0. 88							
17	90								
31	118								
40	98	0. 29						0. 01	
51	92	0. 08	Fair						
58	121		and						
69	107	0. 01	Dry	W by S 2		72	120		
79	98			W by S 3	W by N	78	121		
81	137			W 2		82	142		
87	108								
90	102								
93	143								
			Great Drought						
93	115		Cloudy		NW				
90	92			W by N 2	W by N	67	146	0. 53	
88	147		Fair	W 0		73	125		
92	118		Fair	W by S 1		79	126		
00	117		Hot						
10	150		Cloudy	E 0		87	128		
21	108		Hot and	E 1	W by S	86	138		
17	105		Very Dry						
14	132			E by S 0		81	136		
10	108		Fair	E 1		76	131		
08	137			E by S 1	S E by S	71	158		
06	109		Rain	S 1	S by E	70	138	0. 04	
05	110			SSW 3		80	126		
01	112			S by W 4	SW by S	92	154		
99	110								
92	100								
88	108								
87	131								
83	110								
76	113								
72	137								
71	113								
69	115								
77	124								
80	113								
83	146								
86	115								
86	110		Some						
86	143		Cloudy	W N W 1		88	148	3. 61	
83	110		some Fair	W N W 0	NW by N	92	128		
80	112			W 0	NNW	95	130		

W by S 4 W S W	4/101	00	05	Hoar Fro.	W 0	72	09	Same	N E 2		86	110
	54	118		Fair					E by S 2		86	143
W 3 W by S	48	100		Cloudy	S S W 1 S W	84	115	Cloudy	N N E 1		83	110
	38	99		Warm &	S W 2	87	110	Hot and	E by N 2		80	112
	49	96	0. 25	Fair		94	131	Fair	N E 3		76	148
V S W 1				Cloudy	W S W 0 W	98	115	Fair	N E 2		75	120
W 2 W	50	82		Fairer	W by S 2	99	97	Hot and			72	112
	53	113				30.	00	Dry			66	115
	53	96		Fair	SW b. W 2	29.	97	Cloudy	NE by N 1	N by E	66	109
by E 3 S by W	40	101		and	W S W 3 N W	96	104	Fair	E 1	N	59	134
3	32	118	0. 66	Pleasant		97	131	Fair	E 1	W	49	145
	23	113			S S W 3 W S W	88	113	Rain	N N E 3	N by E	43	117
by W 2 S S W	07	100	0. 57	Fair		74	109	Fair			50	106 0.
4	06	119		Fair	SW b. W 3 W	60	110	Fair	N N W 2	N by W	53	102
	01	100		Rain		64	102	Hail	N by W 3		55	120
W 3 W	19	99	0. 59	Fair	SW b. W 4 W	37	105	Fair	E by S 1	N by W	57	107 0.
V 2	31	117		Fair	W 4	12	109	Rain	S W 2	W by S	55	104
	38	94		Cloudy	S W 1	15	123	Fairer	W 0		57	132
W 0	39	82		Fair	W by S 1	14	100	Fair	S W 1		62	113 0.
by W 2	41	117	0. 25	Rain		23	91	Cloudy	S W 1	S	65	109
	46	102		Cloudy	W by N 1 N by W	31	124	Fair	S 0		67	140
0	48	86		Fair	E 1 E by N	41	105	Fair	E 1	S E	66	118
0	50	121	0. 41	Cloudy	N E 0	52	89	Sultry	E 2	S	61	122
S E 0	54	98		Fair	E 0 N by E	64	122	Rain	E 0	E S E	57	150
N W 1	63	92		Cloudy	E 0 N by W	77	101		E 0	N W	58	131
	71			Fair	S by W 1 N W by W	81	92				63	124 0.
				Cloudy	NE by No	81	129					
				Fair		79	104					
				Cloudy		78	106					
by S 1 W	30	93		Fair		79	135					
S W 3	23	112		Cloudy		81	117					
	20	96										
NW 4	20	99	0. 24					Hot				
NW 6	25	102						and				
W 2	42	96	5. 63					Dry	W by S 2		30.	08 140 2.
						Tot. 2. 44						

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86	110	Some							
86	143	Cloudy	W N W 1			88	148	3.	61
83	110	some Fair	W N W 0	NW by N		92	128		
80	112		W 0	NNW		95	130		
76	148		S 1	N W		98	163		
75	120								
72	112								
66	115								
66	109	Fair							
59	134	Hot	S E 1			93	165		
49	145	Day				93	141		
43	117	Fair	S E 1			94	140		
	113	Sultry	N by W 1	W		94	165		
50	106 0. 08	Rain	E 1			93	140 0. 20		
53	102	Fair	E 0	W by N		89	140		
55	120	Hot	W by S 1			87	166		
57	107 0. 61	Day	SW by W 2			82	144		
55	104		N 2	W by N		76	142		
57	132	Fair							
62	113 0. 10		N W 2			84	134		
65	109		N W 2	NW by N		98	130		
67	140	Same	S 2	W	30.	01	158		
66	118				29.	96	135		
61	122		W S W 2	W		90	133		
57	150	Same	W N W 2	W		91	161		
58	131					92	125		
53	124 0. 09		W N W 2			96	118		
		Same	W by S 1			99	143		
						99	135		
		Same	NW b. W 1	NW		99	135		
			NW b. W 3			97	162		
			E 1	N		97	139		
81	140 2. 67								
							Tot. 4. 40		

hilosoph. Transact. Numb. 262 Tab. 1.

A REGISTER of the Weather, Bearing of the Winds, Flyin and the Quantity of Rain fallen at U

Day	July. 6, 12, 9.						August. 6, 12, 9.						S	
	Weather.	Winds.	Clouds.	Barom.	Ther.	Rain.	Weather.	Winds.	Clouds.	Barom.	Ther.	Rain.	Weather.	Winds.
1	Misting Hot and Fair	NE by E 1 E S E 2	N	30. 00 00 29. 97	134 150 122		Fair Rain Cloudy	S by W 4 SW by S 4 S W 8	S S W	29. 32 33 36	128 145 130	0. 07	Mist Fair	S W 0 SW by S 0
2	Fair and Hot	E S E 1 N E 2		96 92 87	125 150 124		Fair Cloudy	W by S 1 W SW 1	W by S	62 70 63	118 142 131		Cloudy	S E 0
3	Same	E 1 E 2		83 82 78	131 157 129		Cloudy	NN W 1	W S W	56	123		Same	S S E 0 N W 2
4	Fair Cloudy Fair	E by N 1 NE by N 1		74 80	120 135		Cloudy Fair Rain	NN W 0 E by S 2	W by S W by N	72 71 50	117 105 123		Fair	NE by N N 2
5	Fair Cloudy	N 2 N 2	N N E	85 87 90	123 150 125		Rain Fairer	E by S 0 S W 1	S W by S W	37 31 63	125 139 127	4. 38 0. 46	Mist Fairer	N 0 E 1
6	Cloudy	N by E 1 N N E 2		90 90 86	120 143 115		Showry	S 0 S 2		67 59 50	125 139 139	0. 08	Mist Fair	E 0 E S E 1
7	Fair	NE by N 0 E 1	E by N	84 81 78	120 147 125		Fairer Rain	S W 4		39 32	126		Mist Fair Cloudy	E 0 N E 2
8	Fair and Hot	E by S 1 W NW 1 NW by N 0	W by N	79 82 90	116 165 143		Fair Rain	S W 4 S W 3		30 33 55	118 141 117	0. 75 0. 66	Misting. Fair Cloudy	N by E E N E
9	Same	N by W 1 NW by W 1	N W	30. 01 03 04	132 153 131		Fairer	S W 2 SW by W 3	W S W	63 66 69	116 145 125		Fair	N 1
10	Same	W		01 29. 88	119 147		Fair Cloudy	SW by S 3 S W 3		70 72 72	119 150 131		Fair	E 0 E 2
11	Hot and Dry	W by S 2 W by N 2	N W	89 89 92	140 162 143		Fair Cloudy Rain	S 1 S 3	S S W	65 58 43	116 152 137		Mist Fair	E 0 E 1
12	Sultry Hot Cloudy	E by N 0 E N E 1		97 97 97	140 178 143		Fair	N W 1 W by N 3	W by S	49 57 65	117 140 120	0. 44	Same	E 0 E 1
13	Very Hot and Dry	E by S 0 E S E 1	S by E	96 97 90	133 173 142		Cloudy Rain	S S W 3	N W	67 65	120 132		Misty fomewht. Cloudy	E 0 E by N
14	Sultry Rain and Thunder	E 1 E by S 2	E by N	87 88 91	136 164 139	0. 64	Cloudy Fair	S W 2 W by S 2	N W	61 69 73	131 153 134	0. 17	Misty less Cloudy	E 0
15	Cloudy Fair and Dry	NE by N 2 NE E 3		93 90 87	136 164 136		Fair Rain	W S W 2 W S W 3	W by S	73 72 75	139 158 122	0. 44	Same Very Dry	S W 1
16	Fair Hot and Dry	NE 2 E 2	N E	87 88 89	140 172 134		Fair	N W 1 NW by N 2		87 98 30. 00	110 132 111		Rain Cloudy	SW by S S S W
17	Same	E by N 0 E by N 2		91 93 99	138 167 131		Fair Cloudy	NN W 1		29. 98 30. 00	108 116		Rain	E 0 S W 1
18	Cloudy Cool Day	N by E 3 N 2		30. 03 06 06	130 142 127		Cloudy	N by W 1 N 2	N N E	01 03 02	110 138 115		Fair	W by S W N W
19	Same	N 2 N 1		29. 01 98 92	126 138 123		Cloudy	N 2 N by E 2	N N E	29. 97 92 87	116 142 124		Rain Cloudy	S S W S by S
20	Rain Cloudy and Cool	NN W 2 NW by N 2		86 86 86	115 139 126	0. 06	Cloudy Fairer Cloudy	NN E 1 NE by N 2		82 80 72	119 140 127		Rain Cloudy	S by S SW by S

Flying of the Clouds, Height of the Mercury in the Barometer, and of at Upminster, in Essex, for the Last Six Months of the Year 1699

September 6, 12, 9.					October. 6, 12, 9.					November. 8,				
Winds.	Clouds.	Barom.	Ther.	Rain.	Weather	Winds.	Clouds.	Barom.	Ther.	Rain.	Weather	Winds.	Clouds.	Barom.
SW 0		29. 84	98		Fairer	E by N 1	E	29. 97	122		Fair	W 3	W SW	29. 29
SW by S 2	S	85	145			E 2		93	132			W by N 4		42
S 0		80	122		Cloudy			93	123		---Rain---	SW 1/2 W 0	W by S	67
SE 0	S by E	77	112		Rain	E by N 2		87	118		Fair	S by W 2	S W	80
		77	130		Fairer	E by N 1		80	131		Cloudy	S 3		85
SS E 0	S	67	122		---Rain---	E by S 1	SS W	73	111	1. 45	Fairer	S 6	S by W	84
NW 2	NW by N	65	144		Fairer	SW 2		66	115	1. 92	Rain			53
		72	120		Cloudy			67	128		Fairer			52
NE by N 1	SS E	90	108			SW 0		73	118		Rain	SW 3	W SW	60
N 2	N by W	30. 12	115					79	108		Fairer			85
N 0	E	17	96		Cloudy							SW 3	NNW	92
E 1		18	139		Fair						Fair	SW 3	W	96
		15	112		Hour Pro. and	NNW 1		30. 12	87		Cloudy	SW 2		30. 01
E 0	E	07	92		Fair			17	112		Fair	SS E 0	S	03
ESE 1	E	03	142					22	89			SS E 1		02
		01	115											29. 97
E 0		03	97		Cloudy	NW 0		18	99		Misty	SSW 2		30. 02
NE 2	NNE	06	47		---Rain---	W by N 1		19	96		Fair			
		15	131					20				W 0		22
N by E 2		21	123		Cloudy	NE by N 1		21	105	0. 07	Mist	W 1		27
ENE 3	NE	22	137			E by N 1		20	119					27
		22	121					16	110			S by E 1		30
N 1	NE by N	18	116		Same	E 0		07	106		Cloudy	SE 1		29
		12	115			E by N 2		06	119					28
E 0		10	97		Mist	E by N 0		01	99		Frost and	E 1		22
E 2		08	142		Fair			29. 92	92		Fair	E 1		16
		05	121					85	104					18
E 0		29. 95	110		Mist	E 1		80	99		Foggy	N 0		27
E 1		94	150		Cloudy			80				N by E 0		31
		91	121		Mifling			80	120					30
E 0		89	102		Mist	SE by E 0		75	609	0. 42				33
E 1		90	152		Warm	S 2		77	140		Mist	NNE 0	SW by S	30
		90	127		Fair			79	115			E by N 0	SW by W	30
E 0		91	114		Cloudy	S 0	S by W	77	106		Cloudy			23
E by N 1	E	93	143		and	SW by S 3		79	136		Cloudy	SW 1	W by N	09
		93	129		Warm			79	136		Fair	SW 3		03
E 0		89	126					87	119		Cloudy			29. 85
		89	127		Same	S by E 2		87	119		Fair	WSW 1		76
SW 1	SW by W	91	122			S 2		81	133		Stormy	WSW 4	NW	70
		93	134		Cloudy	S 3	SSW	65	122			WSW 8		36
SW by S 0		92	128		Mifling	S 2		57	129		Cloudy	W 6	NW	53
SSW 1		92	140		Rain			57	136		Fair	W by N 5	NW	63
		81	122	0. 15				54	127					84
E 0		59	112		Rain	ESE 2	SE by S	52	122			W by S 1	WNW	87
SW 1		50	141			SE 1	S by E	48	130		Fair	WSW 2	W	88
		60	116	2. 36				50	122	0. 64				80
W by S 2	NW	82	102		Fair	E 1	SE	50	117			NW 3	W	86
WNW 2		88				E 1	SE by E	56	130		Fair	W 1		93
		91	106		Cloudy	NE 2		65	118					91
SSW 2	W	80	115			E by N 1		65			Frost	WSW 3		81
		65	130	0. 01				66	119		Fair	WSW 3		87
S by W 3		41	127		Same	NE 2		68	116			S by W 0	NW	94
SW by S 4	S by W	42	125		Cloudy	E by N 3		71	123		Frost and	S 1		94
		46	150		and	E 3		74	114		Fair			91
		46	150		Cool	E by N 3		75	111		Same	S 1	SW	85
		46	150					80	111			SW by S 2		85

nd of the Spirits in the Thermometer, 1699.

8, 12, 9.			December.			8, 12, 9.		
Barom.	Ther.	Rain.	Weather	Winds	Clouds.	Barom.	Ther.	Rain.
9. 29	95		Cloudy	N N W 0		29. 71	73	
42	103		Hard Fro.	N W 0		71	76	
67	99		Fairer			58	60	
80	106 o.	28	Frost	E by S 3		30	78	
85	116		Cloudy	E 4		12	82	
84	109		Snow			28. 91	83	
53	105		Rain	E 3		61	91	o. 56
52	119			E by S 3		52	94	
60	102 o.	36	Cloudy	E S E 3	S S E	44	100	
85	96		Fair			60	98	o. 18
92	112		---Rain---			74	99	
96	111		Fair	S by E 0	S by W	29. 61	99	o. 13
98	107		Fair	S 2	S S W	14	110	
o. 01	120		---Rain---			28	103	
03	112		Fair	S 2		26	107	o. 74
02	100		Rain and	S by E 3	S by W	32	115	
02	115		Warm			39	108	
9. 97	97		Cloudy	S 1		50	106	o. 30
o. 02	110		and			48	112	
22	94		Warm			48	105	
27	84		Cloudy	S S E 1	S by E	37	109	
27	98		Mifling	S S E 3		32	116	
30	101		Warm			36	114	
29	100		Rain	S E 3		19	113	
28	107			S S E 3		19	117	
22	87					29	112	o. 38
16	80		Fair	S by E 1		41	103	
18	103			S by E 2		46	112	
27	92		Fair	S W 0		57	98	
31	87		Cloudy			88	92	o. 06
30	101		---Rain---			95	108	
33	96		Fair	S by E 2	S by W	84	109	o. 36
30	94		Cloudy and	S 1	S W	78	115	
30	104		some Rain			73	108	
23	103		Cloudy	S W 3		54	110	o. 61
09	103		Fair	SWb.W 3		57	112	
03	110					63	104	
9. 85	109		Rain	S W 1	W by S	51	102	o. 21
76	103 o.	20	Fair	W by S 1		43	108	
70	110					48	98	
36	114		Cloudy	W by N 2	N N W	64	100	
53	109		Mifling	N N W 1		69	103	
63	115		Fair	N 1		91	99	
84	94		Frost and	N 0		30. 07	95	
87	89		Fair	S W 1		14	101	
88	105		Rain			27	87	
80	113		Frost	N W 1		25	73	
86	103		Hazy			20	88	
93	105		Fair			33	90	o. 20
91	85		Cloudy	W 1	N W	44	82	
81	92		with	N W 1		35	76	
87	107		Thaw			21	81	
94	94		Cloudy	N W 0	N	20	93	
94	79			N W 1		23	91	
94	97					26	86	
91	92					27	102	
85	88							
85	106							

Phi

91	91		Thaw			20	93	
	92					23	91	
85	88		Cloudy	N W 0	N	26	86	
85	106			N W 1		27	102	
86	109		Fair	W NW 0		31	94	
84	112	0. 05	Misting	N by W 0		36	90	
82	122			N by E 1		40	99	
78	112		Fairer			47	94	0. 03
75	103	0. 45	Misting	N 0	N E	50	89	
83				N 1		49	92	
89	85		Cloudy			46	85	0. 07
89	80		Frost	N by W 0		40	74	
90	91		Fog	N 0		38	88	
92	75		Cloudy	S by E		35	86	
86	71			S W 0		21	86	
85	90		Cloudy	SW by S 2		19	94	
83	95			S S W 1		15	91	
76	89		Fairer	S S W 1		14	98	
				SW b. W 1		12	102	
			Rain	S by W 1		29.	98	102
			Cloudy	W 0	NW b. W	96	107	0. 08
				W 1	N W	30.	06	105
			Fair			10	94	
				W by S 2	NN W	29.	95	86
			Fair	N W 2		94	98	
				W by N 0	N by W	94	91	
			Fog	W by N 0		90	94	
				W by S 0	NW b. W	86	108	
			Misting			80	106	0. 27
			Rain			72	96	0. 58
				W by N 2		83	100	
			Fair	N W 4		30.	03	82
						01	89	
			Frost	S W 2		29.	96	104
			Cloudy	S W 3	W by S	94	105	0. 24
60	60	0. 59	Rain			93	110	0. 02
			Fairer	SW 3		92	112	
				SW 3		95	108	5. 77
			Cloudy					
Tot. 1. 93								

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A REGISTER of the Weather, Bearing of the Winds, Flying of the Clouds, Height of the Mercury in the Barometer, and of the Spirits in the Thermometer, and the Quantity of Rain fallen at Upminster, in Essex, for the First Six Months of the Year 1699.

January. 8, 12, 9.							February. 7, 12, 9.							March. 6, 12, 9.							April. 6, 12, 9.							May. 6, 12, 9.							June 6, 12, 9.						
Day	Weather	Winds	Clouds	Barom.	Ther.	Rain.	Day	Weather	Winds	Clouds	Barom.	Ther.	Rain.	Day	Weather	Winds	Clouds	Barom.	Ther.	Rain.	Day	Weather	Winds	Clouds	Barom.	Ther.	Rain.	Day	Weather	Winds	Clouds	Barom.	Ther.	Rain.							
1	Frost	S E b. S		29. 77			Fair	S W 1			29. 43	98		Fair	W by N	N W		29. 37	93		Fair	W by S	N W		29. 84	112		Very Dry	SW 2	W by S	30. 08	132									
	Fair	S S E 1		73			Pleasant	W by S 2	S W		53	108		Sleet	N by E 2			29. 26	86	0. 12	Snow	N by W 3			40	82		Fair	SW by S	W by S	29. 91	132									
	Rain	S 3		21	0. 63		Day	W by S			77	83		Fair	N by E 2			29. 26	86	0. 12	Same	N by W 3			50	92		Fair	SW by S	W by S	29. 91	132									
2	Warmer	S 3		21	0. 63		Small Fro.	W S W	N W W		88	75		Snow	N by W 3			29. 26	86	0. 12	Same	N by W 3			50	92		Fair	SW by S	W by S	29. 91	132									
	Rain	S b. E 3		28. 76	0. 29		Hazy	S by W			91	95		Fair	N by E 2	N E		29. 26	86	0. 12	Cloudy	N by E 2	N E		61	95	0. 14	Rain	S by W 3			65	113								
	Rain	S 3	S by W	57	0. 37		Rain	S S E 3	S by E		59	106	0. 05	Hard Fro.	N W b. N			29. 26	86	0. 12	Cloudy	N by E 2	N E		61	95	0. 14	Cloudy	SW by W 3			47	120	0. 34							
3	Same	S b. W 3		47			Fair	S S E 3	S by E		59	106	0. 05	Fair	N by E 2	N E		29. 26	86	0. 12	Fairer	N by E 2	N E		61	95	0. 14	Fair	SW by W 3			47	120	0. 34							
	Cloudy	S S W 3	SW by W	44	110		Small Fro.	W S W 1	N by W		74	82		Cloudy	N by W 3	N N E		29. 26	86	0. 12	Cloudy	N by E 2	N E		61	95	0. 14	Cloudy	SW by W 3			47	120	0. 34							
	Fairer	S W 4		50	109		Fair	W S W 2	N by W		80	101		Cloudy	N by W 3	N N E		29. 26	86	0. 12	Fairer	N by E 2	N E		61	95	0. 14	Fair	SW by W 3			47	120	0. 34							
		S W 4		72	108		Cloudy	S 1	S W		73	89		Cloudy	N 2			30. 02	90	0. 02	Cloudy	N by E 2	N E		61	95	0. 14	Fair	SW by W 3			47	120	0. 34							
4	Frost	S W 3		29. 22	85		Cloudy	SW W 2	W S W		48	104	0. 37	Frost	N W 0	N		11	79		Frost and	N by E 2	N E		83	82		Rain	W by S 2			17	90								
	Fair	S 1		29	94		Fair	W S W 2	W		51	113		Cloudy	N by E 1	N by W		15	94		Cloudy	N E 2			75	109		Fair	SW by W 3			31	118								
	Rain	S 0		28. 67	104	0. 75	Rain	W by S 2			48	91		Fairer	N by W			19	77		Cloudy	E by N			69	95		Rain	SW by W 3			40	98	0. 29							
5	Rain	S 0		28. 67	104	0. 75	Small Fro.	W by N			76	85		Hard Fro.	N N W 0			11	65		Cloudy	E by N	N		55	92		Hoar Fro.	S S W 1			51	92	0. 08							
	Warm	S 5		61	105		Fair				52	92		Fair	E 1	N by E		07	96		Cloudy	E S E 1	S		46	112		Fair	SW by W 3			58	121								
	Snow	S 5		61	105		Rain				52	92		Cloudy	S by E			29. 95	87		Cloudy	E S E 1	S		46	112		Fair	SW by W 3			58	121								
6	Small Fro.	S W 2		29. 00	85		Violent	W 8	W by N		28. 95	103	1. 52	Fair	S E 1	S by E		82	82		Cloudy	S E by E 1	S E		37	85		Fair	S by W 0			79	98								
	Fair	SW W 2	S by W	08	86		Storms	W NW 10	N W		29. 22	101		Cloudy	S E by S 2	S E		83	107		Cloudy	S E by E 1	S E		37	85		Fair	S by W 0			79	98								
	Rain	S by W		19	85	0. 03					78	92		Fair	S E by S 2	S E		83	107		Cloudy	S E by E 1	S E		37	85		Fair	S by W 0			79	98								
7	Small Fro.	S W 2		29. 00	85		Cloudy	N W 0	NW by N		58	88		Fair	S E by S 2	S E		83	107		Cloudy	S E by E 1	S E		37	85		Fair	S by W 0			79	98								
	Fair	SW W 2	S by W	08	86		Fair	S by W	N W		29. 22	101		Cloudy	S E by S 2	S E		83	107		Cloudy	S E by E 1	S E		37	85		Fair	S by W 0			79	98								
	Rain	S by W		19	85	0. 03	Cloudy	W by S 1	N W		29. 98	87		Fairer	S 1	N by W		94	84		Cloudy	S E by E 1	S E		37	85		Fair	S by W 0			79	98								
8	Frost	S W 0	W S W	34	85		Cloudy	N W 0	NW by N		58	88		Cloudy	S 1	N by W		94	84		Rain	S by W 1			63	93	0. 01	Cloudy	N N E 2			05	110								
	Fair	W by S 1	S W	44	88		Fair	S by W 1	N W		30. 00	101		Cloudy	S by W 1			84	106		Cloudy	S by W 1			63	93	0. 01	Cloudy	N N E 2			05	110								
	hard Fro.			70	88		Cloudy				29. 88	99		Rain	S by W 1			63	93	0. 01	Cloudy	S by W 1			63	93	0. 01	Cloudy	N N E 2			05	110								
9	and			72			Milling	W S W 3	W by N		79	106		Fairer	S by W 1			63	93	0. 01	Cloudy	S by W 1			63	93	0. 01	Cloudy	N N E 2			05	110								
	Fair			73			Fair				20. 07	87	0. 20	Fairer	S by W 1			63	93	0. 01	Cloudy	S by W 1			63	93	0. 01	Cloudy	N N E 2			05	110								
10	Same	E by S 1	E S E	82	85		Hoar Fro.	S W 2	N N W		102	88		Cloudy	S by W 1			63	93	0. 01	Cloudy	S by W 1			63	93	0. 01	Cloudy	N N E 2			05	110								
		SE by E 2		82	89		somewhat	W 3	N		03	109		Cloudy	S by W 1			63	93	0. 01	Cloudy	S by W 1			63	93	0. 01	Cloudy	N N E 2			05	110								
	Rain			60			Fair				01	95		Cloudy	S by W 1			63	93	0. 01	Cloudy	S by W 1			63	93	0. 01	Cloudy	N N E 2			05	110								
11	Cloudy	S W 2	W S W	59	101	0. 40	Cloudy	W by S 1	N W		29. 98	87		Small	S 1	N by W		94	84		Cloudy	S by W 1			63	93	0. 01	Cloudy	N N E 2			05	110								
		SW W 2	W	59	99		Fairer	S W 2	W by N		99	107		Rain	S 1	N by W		94	84		Cloudy	S by W 1			63	93	0. 01	Cloudy	N N E 2			05	110								
				71	102		Fairer				98	96		Cloudy	S 1	N by W		94	84		Cloudy	S by W 1			63	93	0. 01	Cloudy	N N E 2			05	110								
12	Cloudy	SW by S		69	103		Fair	S W 1	N by W		94	84		Cloudy	S 1	N by W		94	84		Cloudy	S by W 1			63	93	0. 01	Cloudy	N N E 2			05	110								
		SW 2		68	109		Hazy	S W 3	N W		84	102		Cloudy	S by W 1			84	106		Cloudy	S by W 1			63	93	0. 01	Cloudy	N N E 2			05	110								
	Milling	W by S		59	101		Cloud Rain	5			46	101		Cloudy	S by W 1			84	106		Cloudy	S by W 1			63	93	0. 01	Cloudy	N N E 2			05	110								
13	Fair	SW W 3	W by N	48	93	0. 16		Well 4	W		34	107	0. 02	Rain	S by W 1			63	93	0. 01	Cloudy	S by W 1			63	93	0. 01	Cloudy	N N E 2			05	110								
	Fairer	W by S 3		42	107						102			Cloudy	S by W 1			63	93	0. 01	Cloudy	S by W 1			63	93	0. 01	Cloudy	N N E 2			05	110								
	Cloudy			48	93						102			Fairer	S by W 1			63	93	0. 01	Cloudy	S by W 1			63	93	0. 01	Cloudy	N N E 2			05	110								
14	Cloudy	N by W 4	N by W	33	94	0. 14					80	81		Cloudy	S by W 1			63	93	0. 01	Cloudy	S by W 1			63	93	0. 01	Cloudy	N N E 2			05	110								
	Rain			37	96						80	81		Cloudy	S by W 1			63	93	0. 01	Cloudy	S by W 1			63	93	0. 01	Cloudy	N N E 2			05	110								
15	Cloudy	N by W 1		30. 12	90	0. 16					80	81		Cloudy	S by W 1			63	93	0. 01	Cloudy	S by W 1			63	93	0. 01	Cloudy	N N E 2			05	110								
	Day			17	82						80	81		Cloudy	S by W 1			63	93	0. 01	Cloudy	S by W 1			63	93	0. 01	Cloudy	N N E 2			05	110								
16	Frost	W by S 0	N by W	10	81		Cloudy	E by N 2	N E		37	101	1. 50	Cloudy	S by W 1			63	93	0. 01	Cloudy	S by W 1			63	93	0. 01	Cloudy	N N E 2			05	110								
	Cloudy			15	93						32	97		Cloudy	S by W 1			63	93	0. 01	Cloudy	S by W 1			63	93	0. 01	Cloudy	N N E 2			05	110								
17	Foggy	NW b. W		22	94		Cloudy	E by N 0	W by S		76	93		Cloudy	S by W 1			63	93	0. 01	Cloudy	S by W 1			63	93	0. 01	Cloudy	N N E 2			05	110								
		N W 0		82	100						76	93		Cloudy	S by W 1			63	93	0. 01	Cloudy	S by W 1			63	93	0. 01	Cloudy	N N E 2			05	110								
	Fog	W 0		27	94						83	94		Fair	S 2	S by W		84	108		Cloudy	S by W 1			63	93	0. 01	Cloudy	N N E 2			05	110								
18				26			Rain	W NW 1			84	91	0. 09	Small Fro.	S W 0			19	78																						

A REGISTER of the Weather, Bearing of the Winds, Flying of the Clouds, Height of the Mercury in the Barometer, and of the Spirits in the Thermometer, and the Quantity of Rain fallen at Upminster, in Essex, for the Last Six Months of the Year 1699.

Day	July. 6, 12, 9.						August. 6, 12, 9.						September. 6, 12, 9.						October. 6, 12, 9.						November. 8, 12, 9.						December. 8, 12, 9.					
	Weather.	Winds.	Clouds.	Barom.	Ther.	Rain.	Weather.	Winds.	Clouds.	Barom.	Ther.	Rain.	Weather.	Winds.	Clouds.	Barom.	Ther.	Rain.	Weather.	Winds.	Clouds.	Barom.	Ther.	Rain.	Weather.	Winds.	Clouds.	Barom.	Ther.	Rain.	Weather.	Winds.	Clouds.	Barom.	Ther.	Rain.
1	Miling	NE by E 1		30. 00	134		Fair	S by W 4	S S W	29. 32	128		Milt	S W 0		29. 84	98		Fairer	E by N 1	E	29. 97	122		Fair	W 3	W S W	29. 29	95		Cloudy	NN W 0		29. 71	73	
2	Hot and	E S E 2	N	29. 00	150		Rain	SW by S 4		33	145		Cloudy	SW by S 2	S	85	145		Cloudy	E by N 2	E	29. 93	132		Fair	W by N 4	W S W	29. 42	103		Cloudy	NN W 0		29. 71	73	
3	Fair	E S E 1		29. 07	122		Cloudy	W by S 1	W by S	62	118	0. 07	Fair	S 0	S by E	77	112		Rain	E by N 2	E	29. 93	123		Fairer	SW by W 2	W by S	80	106	0. 28	Froft	E by S 3		30	78	
4	and	NE 2		29. 07	124		Cloudy	W S W 1		70	142		Cloudy	SE 0		77	130		Fairer	E by N 1	E	29. 80	131		Cloudy	S by W 2	S W	85	116		Cloudy	E 4		30	82	
5	Hot			29. 07	124		Cloudy	NN W 1	W S W	63	131		Cloudy	SE 0		77	130		Fairer	E by N 1	E	29. 80	131		Cloudy	S by W 2	S W	85	116		Snow			28	91	
6	Same	E 1		29. 07	124		Cloudy	NN W 1	W S W	63	131		Cloudy	SE 0		77	130		Fairer	E by N 1	E	29. 80	131		Rain	S 3	S by W	53	105		Rain	E 3		61	91	
7	Fair	E 2		29. 07	124		Fair	NN W 1	W S W	63	131		Cloudy	SE 0		77	130		Cloudy	E by N 1	E	29. 80	131		Rain	S 3	S by W	53	105		Rain	E 3		61	91	
8	Fair	E by N 1		29. 07	124		Cloudy	NN W 1	W by S	75	105		Fair	NE by N 1	S S E	65	144		Cloudy	E by N 1	E	29. 80	131		Fairer	S 3	S by W	53	105		Cloudy	E S E 3	S S E	60	98	
9	Cloudy	NE by N 1		29. 07	124		Fair	E by S 2	W by N	71	147		Fair	NE by N 1	S S E	65	144		Cloudy	E by N 1	E	29. 80	131		Fairer	S 3	S by W	53	105		Cloudy	E S E 3	S S E	60	98	
10	Fair	N 2	N N E	29. 07	124		Rain	E by S 0	SW by S	50	123		Cloudy	NE by N 1	S S E	65	144		Cloudy	E by N 1	E	29. 80	131		Fairer	S 3	S by W	53	105		Cloudy	E S E 3	S S E	60	98	
11	Cloudy	N 2	N N E	29. 07	124		Fairer	SW 1	W by S	37	125	4. 38	Cloudy	NE by N 1	S S E	65	144		Cloudy	E by N 1	E	29. 80	131		Fairer	S 3	S by W	53	105		Cloudy	E S E 3	S S E	60	98	
12	Cloudy	N by E 1		29. 07	124		Cloudy	SW 1	W by S	37	125	4. 38	Cloudy	NE by N 1	S S E	65	144		Cloudy	E by N 1	E	29. 80	131		Fairer	S 3	S by W	53	105		Cloudy	E S E 3	S S E	60	98	
13	Cloudy	N by E 1		29. 07	124		Cloudy	SW 1	W by S	37	125	4. 38	Cloudy	NE by N 1	S S E	65	144		Cloudy	E by N 1	E	29. 80	131		Fairer	S 3	S by W	53	105		Cloudy	E S E 3	S S E	60	98	
14	Fair	NE by N 1		29. 07	124		Cloudy	SW 1	W by S	37	125	4. 38	Cloudy	NE by N 1	S S E	65	144		Cloudy	E by N 1	E	29. 80	131		Fairer	S 3	S by W	53	105		Cloudy	E S E 3	S S E	60	98	
15	Fair	E by N 1		29. 07	124		Cloudy	SW 1	W by S	37	125	4. 38	Cloudy	NE by N 1	S S E	65	144		Cloudy	E by N 1	E	29. 80	131		Fairer	S 3	S by W	53	105		Cloudy	E S E 3	S S E	60	98	
16	Fair	E by N 1		29. 07	124		Cloudy	SW 1	W by S	37	125	4. 38	Cloudy	NE by N 1	S S E	65	144		Cloudy	E by N 1	E	29. 80	131		Fairer	S 3	S by W	53	105		Cloudy	E S E 3	S S E	60	98	
17	Fair	E by N 1		29. 07	124		Cloudy	SW 1	W by S	37	125	4. 38	Cloudy	NE by N 1	S S E	65	144		Cloudy	E by N 1	E	29. 80	131		Fairer	S 3	S by W	53	105		Cloudy	E S E 3	S S E	60	98	
18	Fair	E by N 1		29. 07	124		Cloudy	SW 1	W by S	37	125	4. 38	Cloudy	NE by N 1	S S E	65	144		Cloudy	E by N 1	E	29. 80	131		Fairer	S 3	S by W	53	105		Cloudy	E S E 3	S S E	60	98	
19	Fair	E by N 1		29. 07	124		Cloudy	SW 1	W by S	37	125	4. 38	Cloudy	NE by N 1	S S E	65	144		Cloudy	E by N 1	E	29. 80	131		Fairer	S 3	S by W	53	105		Cloudy	E S E 3	S S E	60	98	
20	Fair	E by N 1		29. 07	124		Cloudy	SW 1	W by S	37	125	4. 38	Cloudy	NE by N 1	S S E	65	144		Cloudy	E by N 1	E	29. 80	131		Fairer	S 3	S by W	53	105		Cloudy	E S E 3	S S E	60	98	
21	Fair	E by N 1		29. 07	124		Cloudy	SW 1	W by S	37	125	4. 38	Cloudy	NE by N 1	S S E	65	144		Cloudy	E by N 1	E	29. 80	131		Fairer	S 3	S by W	53	105		Cloudy	E S E 3	S S E	60	98	
22	Fair	E by N 1		29. 07	124		Cloudy	SW 1	W by S	37	125	4. 38	Cloudy	NE by N 1	S S E	65	144		Cloudy	E by N 1	E	29. 80	131		Fairer	S 3	S by W	53	105		Cloudy	E S E 3	S S E	60	98	
23	Fair	E by N 1		29. 07	124		Cloudy	SW 1	W by S	37	125	4. 38	Cloudy	NE by N 1	S S E	65	144		Cloudy	E by N 1	E	29. 80	131		Fairer	S 3	S by W	53	105		Cloudy	E S E 3	S S E	60	98	
24	Fair	E by N 1		29. 07	124		Cloudy	SW 1	W by S	37	125	4. 38	Cloudy	NE by N 1	S S E	65	144		Cloudy	E by N 1	E	29. 80	131		Fairer	S 3	S by W	53	105		Cloudy	E S E 3	S S E	60	98	
25	Fair	E by N 1		29. 07	124		Cloudy	SW 1	W by S	37	125	4. 38	Cloudy	NE by N 1	S S E	65	144		Cloudy	E by N 1	E	29. 80	131		Fairer	S 3	S by W	53	105		Cloudy	E S E 3	S S E	60	98	
26	Fair	E by N 1		29. 07	124		Cloudy	SW 1	W by S	37	125	4. 38	Cloudy	NE by N 1	S S E	65	144		Cloudy	E by N 1	E	29. 80	131		Fairer	S 3	S by W	53	105		Cloudy	E S E 3	S S E	60	98	
27	Fair	E by N 1		29. 07	124		Cloudy	SW 1	W by S	37	125	4. 38	Cloudy	NE by N 1	S S E	65	144		Cloudy	E by N 1	E	29. 80	131		Fairer	S 3	S by W	53	105		Cloudy	E S E 3	S S E	60	98	
28	Fair	E by N 1		29. 07	124		Cloudy	SW 1	W by S	37	125	4. 38	Cloudy	NE by N 1	S S E	65	144		Cloudy	E by N 1	E	29. 80	131		Fairer	S 3	S by W	53	105		Cloudy	E S E 3	S S E	60	98	
29	Fair	E by N 1		29. 07	124		Cloudy	SW 1	W by S	37	125	4. 38	Cloudy	NE by N 1	S S E	65	144		Cloudy	E by N 1	E	29. 80	131		Fairer	S 3	S by W	53	105		Cloudy	E S E 3	S S E	60	98	
30	Fair	E by N 1		29. 07	124		Cloudy	SW 1	W by S	37	125	4. 38	Cloudy	NE by N 1	S S E	65	144		Cloudy	E by N 1	E	29. 80	131		Fairer	S 3	S by W	53	105		Cloudy	E S E 3	S S E	60	98	
31	Fair	E by N 1		29. 07	124		Cloudy	SW 1	W by S	37	125	4. 38	Cloudy	NE by N 1	S S E	65	144		Cloudy	E by N 1	E	29. 80	131		Fairer	S 3	S by W	53	105		Cloudy	E S E 3	S S E	60	98	